

# SDHAF1 (A-16): sc-241666

## BACKGROUND

SDHAF1 (succinate dehydrogenase complex assembly factor 1), also known as LYR motif-containing protein 8, is a 115 amino acid protein that belongs to the complex I LYR family and the SDHAF1 subfamily. Ubiquitously expressed, SDHAF1 localizes to mitochondria in transfected COS-7 and HeLa cells. It has also been suggested that SDHAF1 resides in the mitochondrial matrix and that the mitochondrial targeting signal is not removed following import into mitochondria. SDHAF1 has an N-terminal mitochondrial targeting sequence and an LYR motif characteristic of proteins involved in Fe-S metabolism. The SDHAF1 protein plays an essential role in succinate dehydrogenase complex (SDH) assembly, a complex involved in complex II of the mitochondrial electron transport chain. SDHAF1 probably acts by participating in mitochondrial biosynthesis of iron-sulfur centers for complex II. Mitochondrial complex II deficiency can be caused by a mutation in the SDHAF1 gene. Containing a single exon, the SDHAF1 gene is conserved in dog, cow and mouse, and maps to human chromosome 19q13.12.

## REFERENCES

1. Brockmann, K., et al. 2002. Succinate in dystrophic white matter: a proton magnetic resonance spectroscopy finding characteristic for complex II deficiency. *Ann. Neurol.* 52: 38-46.
2. Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. *Nature* 428: 529-535.
3. Hao, H.X. and Rutter, J. 2009. Revealing human disease genes through analysis of the yeast mitochondrial proteome. *Cell Cycle* 8: 4007-4008.
4. Ghezzi, D., et al. 2009. SDHAF1, encoding a LYR complex-II specific assembly factor, is mutated in SDH-defective infantile leukoencephalopathy. *Nat. Genet.* 41: 654-656.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612848. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Feichtinger, R.G., et al. 2010. Low aerobic mitochondrial energy metabolism in poorly- or undifferentiated neuroblastoma. *BMC Cancer* 10: 149.

## CHROMOSOMAL LOCATION

Genetic locus: SDHAF1 (human) mapping to 19q13.12.

## SOURCE

SDHAF1 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SDHAF1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-241666 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

SDHAF1 (A-16) is recommended for detection of SDHAF1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of SDHAF1: 13 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.